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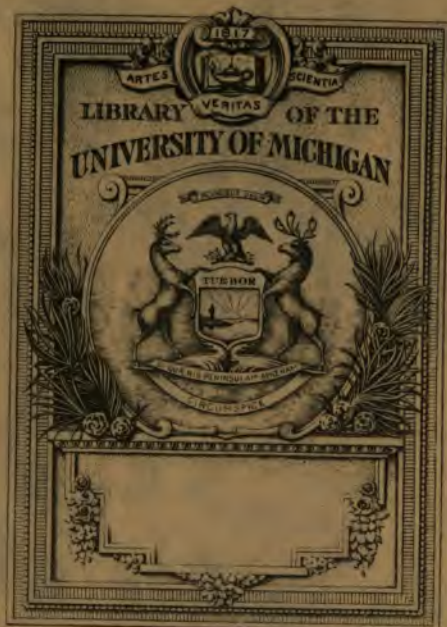
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NEVADA. (State) board of health

Biennial report, 1913/14.

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STATE OF NEVADA

BIENNIAL REPORT

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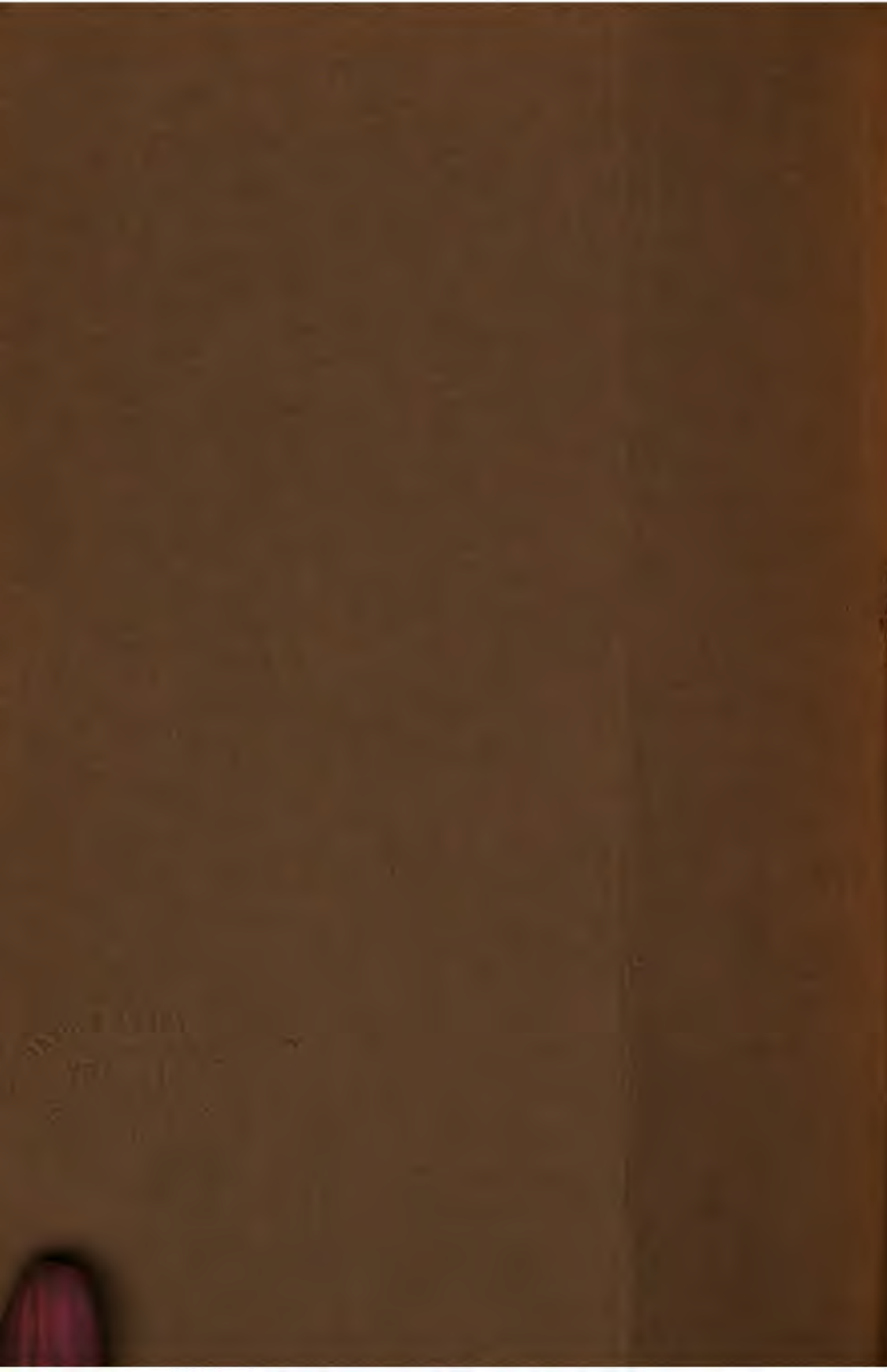
STATE BOARD OF HEALTH

For Period Ending December 31, 1914

S. L. LEE, M.D., Secretary



CARSON CITY, NEVADA
STATE PRINTING OFFICE : : JOE FARNSWORTH, SUPERINTENDENT
1915



STATE OF NEVADA

BIENNIAL REPORT

OF THE

STATE BOARD OF HEALTH

For Period Ending December 31, 1914

S. L. LEE, M.D., Secretary



CARSON CITY, NEVADA

STATE PRINTING OFFICE : : : JOE FARNSWORTH, SUPERINTENDENT

1915



LETTER OF TRANSMITTAL

OFFICE OF
SECRETARY OF THE STATE BOARD OF HEALTH,
CARSON CITY, NEVADA, January 11, 1915.

To His Excellency, EMMET D. BOYLE, Governor of Nevada.

SIR: In compliance with an Act to create and establish a Board of Health and Bureau of Vital Statistics in the State of Nevada, I have the honor to present herewith a report for the biennial period ending December 31, 1914.

SIMEON L. LEE, M.D.,
Secretary State Board of Health.

PERSONNEL OF STATE BOARD OF HEALTH

W. H. HOOD, M.D., <i>President</i>	Reno, Nevada
O. P. JOHNSTONE, M.D., <i>Member</i>	Reno, Nevada
SIMEON L. LEE, M.D., <i>Secretary</i>	Carson City, Nevada

PLACE AND TIME OF MEETING

The regular meetings of the Board are held in Carson City, Nevada, on the first Tuesdays of January and July of each year.

REPORT OF STATE BOARD OF HEALTH

The following is the amendment to the Vital Statistics Law, passed by the Legislature during the session of 1913, and approved by the Governor March 15, 1913:

AN ACT to amend an Act entitled "An Act creating a State Board of Health, defining their duties, prescribing the manner of the appointment of its officers, fixing their compensation, and making an appropriation for the support of said board, establishing County Boards of Health, requiring certain statements to be filed, and defining certain misdemeanors and providing penalties therefor, and other matters relating thereto," approved March 27, 1911, by amending section six thereof and adding three new sections thereto, and providing for the renumbering of sections twenty-five, twenty-six, twenty-seven, twenty-eight, twenty-nine, and thirty.

The People of the State of Nevada, represented in Senate and Assembly, do enact as follows:

SECTION 1. Section six of the above-entitled Act is hereby amended so as to read as follows:

Section 6. The Board of County Commissioners shall appoint a local health officer for a period of not less than one year who shall only be removed for incompetency, and who shall act as a collector of vital statistics and is empowered to appoint such deputy or deputies as may be necessary, with the approval of the Board of County Commissioners. For collecting and compiling the vital statistics of the county he shall receive from the county a sum not less than \$25 per month, and the Board of County Commissioners is directed to allow a claim for this or for such greater sum as they may deem proper for the work performed; the deputies appointed by the local health officer, with the approval of the County Commissioners, shall be paid in the same manner a sum not to exceed \$25 per month for registering and compiling the data prescribed by the State Board of Health and by this Act. The deputy health officers shall file with the local health officer monthly reports not later than the fifth day of each month, which said report shall be compiled by the local health officer and forwarded to the Secretary of the State Board of Health not later than the tenth day of each month. In counties where deputy registrars are appointed the County Commissioners shall allow them a monthly salary or the sum of one dollar (\$1) for each birth and death certificate executed by them.

SEC. 2. Following section twenty-four the following are to be inserted:

Section 25. All cases of smallpox, diphtheria, or scarlet fever shall be reported by the attending physician to the local health officer within twenty-four hours after making such diagnosis, and on or before the fifth day of each month physicians shall report to the local health officer in their respective counties, all cases of contagious, infectious, or communicable diseases treated by them during the preceding month. Blanks for such reports shall be supplied by the State Board of Health.

Section 26. Any physician who shall wilfully neglect or refuse to perform any duties imposed upon them by the provisions of this Act, shall be deemed guilty of a misdemeanor, and upon conviction shall be fined not less than five (\$5) dollars nor more than twenty-five (\$25) dollars.

Section 27. It shall be the duty of the County Clerk of the several counties of the State to transmit to the Secretary of the State Board of Health, on or before the 10th day of January and the 10th day of June of each year the number of marriage licenses issued by him during the preceding six months.

Section twenty-five of said Act to be renumbered and known as section twenty-eight (28) and the following sections numbered consecutively up to and including section thirty-three (33).

INTRASTATE QUARANTINE RULES AND REGULATIONS

Passed by the Nevada State Board of Health, July 3, 1913

With a view to placing Nevada in harmony with national legislation, and subsequent amendments to the law issued by the Secretary of the

Treasury upon the subject of interstate quarantine, the State Board of Health, at a meeting held in Carson City, Nevada, on the 3d day of July, 1913, passed the following Rules and Regulations:

RULE 1

SECTION 1. Common carriers shall not provide in cars, vehicles, vessels, or conveyances operated in intrastate traffic, or in depots, waiting-rooms, or other places used by passengers, any drinking-cup, glass, or vessel for common use; *provided*, that this regulation shall not be held to preclude the use of drinking-cups, glasses, or vessels which are thoroughly cleansed by washing in boiling water after use by each individual, nor shall it be held to preclude the use of sanitary devices for individual use only.

SECTION 2. Common carriers shall not provide in cars, vehicles, vessels, or conveyances operated in intrastate traffic, or in depots, waiting-rooms, or other places used by passengers, any towel for use by more than one person; *provided*, that towels may be used again after having been sterilized with boiling water.

RULE 2

Water provided by common carriers on cars, vessels, or vehicles operated in intrastate traffic for the use of passengers, shall be furnished under the following conditions:

(a) Water shall be certified by the state or municipal health authority within whose jurisdiction it is obtained as incapable of conveying disease; *provided*, that water in regard to the safety of which a reasonable doubt exists may be used if the same has been treated in such a manner as to render it incapable of conveying disease, and the fact of such treatment is certified by the aforesaid health officer.

(b) Ice used for cooling such water shall be from a source, the safety of which is certified by the state or municipal health authority within whose jurisdiction it is obtained, and before the ice is placed in the water it shall first be carefully washed with water of known safety, and handled in such a manner as to prevent its becoming contaminated by the organisms of infectious or contagious disease; *provided*, that the foregoing shall not apply to ice which does not come in contact with the water which is to be cooled.

(c) Water containers shall be cleansed and thoroughly scalded with live steam at least once in each week that they are in operation.

RULE 3

SECTION 1. Common carriers shall not accept for transportation nor transport in intrastate traffic any person suffering from or afflicted with leprosy, unless there has been obtained from the Surgeon-General of the Public Health and Marine Hospital Service or his accredited representative a permit stating that said person may be received under such restrictions as will prevent the spread of the disease, and said restrictions shall be specified in each instance.

SECTION 2. No person knowing or having reason to believe that he is a leper shall accept transportation nor engage in travel in intrastate traffic unless permits have been obtained, as set forth in the preceding section, and unless said person shall have agreed in writing to comply with the restrictions as specified in the permits mentioned above.

SECTION 3. Compartments or places in cars, vessels, or conveyances operated in intrastate traffic and that have been occupied by persons afflicted with leprosy shall be immediately closed after being vacated by the patient and so kept until after proper disinfection.

S. L. LEE, M.D., *Secretary.*

DISINTERMENT OF BODIES

Under the Act concerning crimes and punishments, the disinterment of bodies, dead of contagious or infectious disease, is forbidden under penalty.

The Secretary of the State Board of Health, holding that the Vital Statistics Act, approved March 27, 1911, repealed that portion of the Act concerning crimes and punishments in so far as it related to the disinter-

ment of deceased persons, submitted the matter to the Attorney-General for his opinion, which is as follows:

OFFICE OF THE ATTORNEY-GENERAL,
CARSON CITY, NEVADA, May 20, 1913.

Dr. S. L. LEE, *Secretary State Board of Health, Carson City, Nevada.*

DEAR SIR: I am in receipt of verbal inquiries from you to this office which may be summarized as follows:

First—"Does section 28 of the Act creating the State Board of Health repeal sections 6552-3 of the Revised Laws?"

The sections in question are sections 287 and 288 of the Act concerning crimes and punishments, approved March 17, 1911, and were adopted into said Act from an earlier enactment in accordance with the rule of the Code Commission including in said Act all laws concerning crimes and punishments which have been adopted by the Legislature since the enactment of the first Crimes and Punishments Act.

Said sections make it a misdemeanor to exhume or disinter any human remains except upon permission of the various Boards of County Commissioners, and expressly provide "that no such permit shall be granted or issued under any circumstances or at any time where the party or parties buried or interred have died from or with any contagious or loathsome disease"

The Act creating the State Board of Health was approved March 27, 1911, or ten days after the approval of the Crimes and Punishments Act. The provisions of sections 6552 and 6553 of the Revised Laws could have been adopted only as a health measure.

Section 28 of the Act creating the Board of Health which provides: "The State Board of Health is hereby declared to be supreme in all health matters," being a later enactment on the subject and fully covering the same, I am of the opinion that the said sections 6552 and 6553 are repealed by the Act creating the State Board of Health, and the said board is authorized to make and issue proper regulations in regard to the disinterment of human remains.

Second—"Is our board authorized to cooperate with the Marine Hospital Service in promulgating regulations covering intrastate common carriers which are exactly similar to those governing interstate common carriers?"

In response to this inquiry, permit me to say that in my opinion section 28 of the Act creating your board gives you full power to adopt such rules and regulations on the subject as you see fit to adopt. The letters submitted to me are herewith returned.

Very respectfully, GEO. B. THATCHER, *Attorney-General.*

The prohibitive law embraced in the Crimes and Punishments Act in relation to the exhumation of deceased persons, placed Nevada in a class by itself, and, that harmony should exist between her laws and the interstate quarantine regulations, the following rules were adopted by the Nevada State Board of Health at a meeting held in Carson City, Nevada, on July 3, 1913, they being, in effect, the same as promulgated by the American Public Health Association and the American Association of General Baggage Agents for the transportation of the dead:

RULE 1. The transportation of bodies dead of smallpox or bubonic plague through the State is absolutely prohibited.

RULE 2. The transportation of bodies dead of Asiatic cholera, yellow fever, typhus fever, diphtheria (membranous croup), scarlet fever (scarlatina, scarlet rash), erysipelas, glanders, anthrax, or leprosy, shall not be accepted for transportation unless prepared for shipment by being thoroughly disinfected by (a) arterial and cavity injection with an approved disinfecting fluid; (b) disinfection and stopping of all orifices with absorbent cotton, and (c) washing the body with the disinfectant, all of which must be done by an embalmer holding a certificate as such, issued by the State Board of Embalmers of Nevada, provided by law.

After being disinfected as above, such body shall be enveloped in a layer of dry cotton, not less than one inch thick, completely wrapped in a sheet securely

fastened, and encased in an air-tight zinc, tin, copper, or lead-lined coffin or iron casket, all joints and seams hermetically sealed, and all enclosed in a strong tight wooden box. Or the body, being prepared for shipment by disinfecting and wrapping, as above, may be placed in a strong coffin or casket, and said coffin or casket enclosed in air-tight zinc, copper or tin-lined box, all joints and seams hermetically soldered.

RULE 3. The bodies of those dead of typhoid fever, puerperal fever, tuberculosis, or measles, may be received for transportation when prepared for shipment by arterial and cavity injection with an approved disinfecting fluid, washing the exterior of the body with the same, and enveloping the entire body with a layer of cotton not less than one inch thick, and all wrapped in a sheet, securely fastened, and encased in an air-tight metallic coffin or casket, or air-tight metal-lined box; *provided*, that this shall only apply to bodies which can reach their destination within thirty hours from the time of death. In all other cases, such bodies shall be prepared by a licensed embalmer holding a certificate as provided for in Rule 2. When prepared by a licensed embalmer, as defined and directed in Rule 2, the air-tight sealing and bandaging with cotton may be dispensed with.

RULE 4. The bodies of those dead from any cause not stated in Rules 2 and 3 may be received for transportation when encased in a sound coffin or casket and enclosed in a strong outside wooden box, provided that they can reach their destination within thirty hours from the time of death. If the body cannot reach its destination within thirty hours from the time of death, it must be prepared for shipment by arterial and cavity injection with approved disinfecting fluid, washing the exterior of the body with the same, and enveloping the entire body with a layer of dry cotton not less than one inch thick, and all wrapped in a sheet securely fastened, and encased in an air-tight metallic coffin or casket or an air-tight metal-lined box. But when the body has been prepared for shipment by being thoroughly disinfected by a licensed embalmer, as defined and directed in Rule 2, the air-tight sealing and bandaging with cotton may be dispensed with.

RULE 5. In the shipment of bodies dead from any disease named in Rule 2, such body must not be accompanied by persons or articles which have been exposed to the infection of the disease, unless certified by the health officer as having been properly disinfected.

RULE 6. (The following is Rule 8 of the American Public Health Association.) Every disinterred body, dead from any disease or cause, shall be treated as infectious or dangerous to the public health, and shall not be accepted for transportation unless said removal has been approved by the State Board of Health and the local health officer having jurisdiction where such body is disinterred, and the consent of the health authorities of the locality to which the corpse is consigned has been first obtained; and all such disinterred remains, or the coffin or casket containing the same, must be wrapped in a woolen blanket, thoroughly saturated with a 1-1,000 solution of corrosive sublimate, and enclosed in a hermetically soldered zinc, tin, or copper-lined box. But bodies deposited in receiving vaults shall not be treated and considered the same as buried bodies, when originally prepared by a licensed embalmer as defined in Rule 2, and as directed in Rules 2 and 3 (according to the nature of the disease causing death), providing shipment takes place within thirty days from the time of death. The shipment of bodies prepared in the manner above directed by licensed embalmers from receiving vaults may be made within thirty days from the time of death without having to obtain permission from the health authorities of the locality to which the body is consigned. After thirty days the casket or coffin box containing said body must be enclosed in a hermetically soldered box.

RULE 7. Disinterred bodies, dead from any cause defined in Rule 2, may be disinterred and received for transportation at any time, provided that said removal has first been approved by the Nevada State Board of Health and the local health officer within whose jurisdiction said shipment is made. For interstate transportation, permission must first be obtained from the health authorities of the locality to which the body is consigned.

All bodies dead of any disease mentioned in Rule 2 may be received for transportation at any time, provided said body has been prepared strictly in accordance with Rule 5; all of which must be done by an embalmer holding a certificate as such from the State Board of Embalmers of Nevada, provided by law.

S. L. LEE, M.D., *Secretary*.

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Counties	Total births	Males	Females	Stillbirth	Illegitimate	Twins (pairs of)	Both parents native	Mother native, father foreign	Father native, mother foreign	Both parents foreign	Father native, mother unknown	Mother native, father unknown	Both parents unknown	White	Yellow	Red	Black	Half-breed—White and red
Churchill	63	28	35	2	2	2	50	9	4	8				61	1	1		
Clark	60	29	31	1	2	1	43	4	4					60				
Douglas	37	18	19	4	1	1	14	7		15				37				
Elko	144	66	78	4	1	1	111	11	6	16				144				
Emeralda	83	41	42	2	1		53	13	6	15				82		1		
Eureka	21	11	10				8	8	2	8				21		2		1
Humboldt	121	71	50	2		1	71	8	4	35			2	117	1			
Lander	31	13	18		1	1	18	7		6				31				
Lincoln	46	26	20	2	1		39	4	1	2				46				
Mineral	80	40	40	2			43	5	3	29				80				
Nye	9	2	7				6	2		1				9				
Ormsby	112	59	53	1	3	1	56	10	8	36	1			108		3	1	
Storey	34	16	18				24	2	1	7				33				
Washoe	44	26	18		1		28	2	2	7				44				
White Pine	295	179	116	9	4	2	186	29	14	81	2			289	3	1	1	1
	161	79	82	1		3	103	13	6	35				161				
Totals	1341	704	637	30	13	12	883	127	61	301	3	3	2	1323	5	8	3	2

REPORT OF STATE BOARD OF HEALTH

DEATHS ACCORDING TO AGE, SEX, COLOR, AND SOCIAL CONDITION
From January 1 to December 31, 1913, inclusive

Counties	Important ages													Male	Female	White	Colored	Native	Foreign	Unknown	Single	Married	Widowed	Divorced	Unknown	Stillbirths					
	Under 1 yr.	1 to 5 yrs.	5 to 10 yrs.	10 to 20 yrs.	20 to 30 yrs.	30 to 40 yrs.	40 to 50 yrs.	50 to 60 yrs.	60 to 70 yrs.	70 to 80 yrs.	80 to 90 yrs.	90 to 100 yrs.	100 yrs. or over	Unknown																	
	Churchill	7	4	4	1	2	6	3	5	2	1	5	1	1	22	17	33	6	30	6	18	11	6	6	1	3	3	2	2	4	
	Clark	7	4	4	1	2	6	3	5	2	1	5	1	1	26	9	34	1	27	6	15	11	6	2	4	3	2	2	4	5	
	Douglas	1	1	1	1	2	2	3	1	1	3	3	1	1	12	10	22	7	12	8	11	11	3	3	0	2	2	2	4	6	
	Elko	5	5	5	2	8	6	13	14	9	10	4	1	1	48	25	66	3	44	17	33	22	22	3	1	11	1	11	1	1	
	Esmeralda	5	5	5	1	9	8	13	14	7	7	4	1	1	17	17	61	3	39	20	24	22	6	1	1	8	2	2	2	2	
	Eureka	1	1	1	1	1	2	3	3	3	5	2	1	1	47	17	61	3	12	9	13	3	5	5	1	12	1	1	1	1	
	Humboldt	14	1	1	1	1	15	12	14	11	7	4	2	2	77	18	92	3	67	19	48	25	9	1	1	12	1	1	1	1	
	Lander	4	2	1	1	1	1	1	1	1	1	1	1	1	18	7	25	3	16	10	14	9	1	1	1	3	1	1	1	1	
	Lincoln	3	3	3	1	1	9	4	3	3	6	2	1	1	24	9	32	1	32	11	14	10	10	1	1	1	1	1	1	1	2
	Lyon	3	3	3	1	1	4	7	3	5	2	3	1	1	28	15	42	1	16	11	14	9	10	1	1	1	1	1	1	1	2
	Mineral	1	1	1	1	6	1	3	5	3	2	1	1	1	21	5	20	6	14	5	16	5	1	1	1	1	1	1	1	1	3
	Nye	3	3	3	1	11	10	12	8	12	6	3	1	1	54	19	69	4	44	26	31	26	3	1	1	1	1	1	1	1	1
	Ornaby	2	1	1	3	3	4	9	9	9	8	1	1	1	27	18	39	6	31	13	19	18	7	1	1	1	1	1	1	1	1
	Storey	1	1	1	2	3	5	2	3	13	12	10	1	1	40	14	51	3	23	28	3	23	18	11	1	1	1	1	1	1	1
	Washoe	19	10	9	30	44	51	48	34	45	15	3	1	1	238	95	314	19	202	107	24	162	89	60	4	18	13	13	13	13	
	White Pine	21	8	1	5	14	14	10	13	5	5	1	2	2	72	31	93	10	62	35	65	19	8	4	7	4	7	4	7	2	
	Totals	101	46	16	29	105	140	141	143	120	127	90	10	1	771	314	1014	71	673	327	526	313	148	21	77	43	43	43	43	43	43

REPORT OF STATE BOARD OF HEALTH

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CONTAGIOUS, INFECTIOUS AND COMMUNICABLE DISEASES REPORTED BY THE LOCAL HEALTH OFFICERS For the Year Ending December 31, 1913

County	Scarlet fever		Small-pox		Diphtheria and membranous croup		Typhoid fever		Whooping cough		Measles		Chick-enpox		Pneumonia		Tuberculosis		Bronchitis		Acute anterior poliomyelitis		Cerebrospinal meningitis		Diarrheal diseases of children		Cancer		Puer-peral septicaemia		Rocky Mountain spotted or tick fever	
	C ^a	D ^b	C	D	C	D	C	D	C	D	C	D	C	D	C	D	C	D	C	D	C	D	C	D	C	D	C	D	C	D	C	D
Churchill							9	0	1	0			2	0	31	6	5	1	27	0			1	1	54	1	2	2				
Clark		22	0			17	0				21	0	7	0	3	3	14	6	1					17	6							
Douglas			1								1	0			46	6	5	4	7	119	0	4	0	1	41	1	28	1	1	0		
Elko	5	0	83	0	1	0	11	1			91	0			5	5	4	4														
Esmeralda															2	2	1	1	2	0												
Eureka			1	0	3	1	1				4	0			56	15	5	6														
Humboldt	3	0	6	0		13	3				30	0	2	0	3	9	1	1	3	3												
Lander			1	0							13	0			2	2	1	1	3	0												
Lincoln	5	0	3	0	1	0			53	0	99	0			9	5	8	4														
Lyon						43	3								2	2	1	1	3	3												
Mineral						3	0	42	0		7	0	3	0	1	0	3	4														
Nye	68	1				8	0	13	2					1	0	26	13	17	1	2	1	0	1	1	4	0	2	1	2	2		
Ormsby	2	0	8	0	2	0	9	1			50	0	12	0	9	6	1	1	10	0					15	2	3	1	1	1		
Storey			19	0		5	0								3	0	2	1							22	2	1	1				
Washoe	40	0	96	0							76	0	3	0	77	12	23	4	29	0					22	2	0	1				
White Pine	1	0	17	0	1	0	5	0	11	0	46	1	7	0	10	6	10	10	36	0					15	0	17	7	2	1		
Totals	124	1	256	0	17	1	171	17	139	0	438	1	46	0	296	85	146	56	297	4	8	1	9	9	217	25	60	17	9	6	6	1

*C—Cases. *D—Deaths.

MARRIAGE LICENSES**Issued in Nevada from January 1 to December 31, 1913**

Churchill County.....	26
Clark County.....	53
Douglas County.....	14
Elko County.....	74
Esmeralda County.....	56
Eureka County.....	11
Humboldt County.....	64
Lander County.....	11
Lincoln County.....	17
Lyon County.....	21
Mineral County.....	9
Nye County.....	76
Ormsby County.....	36
Storey County.....	17
Washoe County.....	312
White Pine County.....	82
Total.....	879

CAUSES OF DEATH (International Classification)
From January 1 to December 31, 1913

GENERAL DISEASES

Typhoid fever.....	23
Malaria.....	1
Measles.....	1
Scarlet fever.....	3
Whooping cough.....	2
Diphtheria.....	1
Influenza.....	4
Dysentery.....	3
Erysipelas.....	3
Purulent infection and septicemia.....	9
Rocky mountain spotted (Tick) fever.....	1

TUBERCULOSIS

Tuberculosis of the lungs.....	65
Acute miliary tuberculosis.....	2
Tuberculosis meningitis.....	2
Abdominal tuberculosis.....	1
Tuberculosis of other organs.....	3
Pneumokoniosis.....	6
Syphilis.....	2

CANCER

Cancer of the liver and stomach.....	17
Cancer of the peritoneum, intestines, rectum.....	6
Cancer of the female genital organs.....	1
Cancer of the breast.....	1
Cancer of other unspecified organs.....	5
Other tumors (except of female genital organs).....	4
Acute articular rheumatism.....	2
Chronic rheumatism and gout.....	2
Diabetes.....	6
Anemia, chlorosis.....	3
Alcoholism (acute or chronic).....	14

DISEASES OF THE NERVOUS SYSTEM

Simple meningitis	17
Cerebrospinal meningitis (undefined)	2
Locomotor ataxia	1
Cerebral hemorrhage, apoplexy	42
Softening of the brain	10
Paralysis without specific cause	12
General paralysis of the insane	2
Epilepsy	7
Convulsions (nonpuerperal)	1
Convulsions of infants	2
Other diseases of the nervous system	1
Diseases of the ears	1
Acute anterior poliomyelitis	2

DISEASES OF THE CIRCULATORY SYSTEM

Pericarditis	1
Acute endocarditis	12
Organic disease of the heart	92
Angina pectoris	11
Diseases of arteries, atheroma, aneurism, etc.	25
Embolism and thrombosis	10
Hemorrhage; other diseases of the circulatory system	10

DISEASES OF THE RESPIRATORY SYSTEM

Disease of the larynx	1
Acute bronchitis	5
Bronchopneumonia	15
Lobar pneumonia	47
Pneumonia (undefined)	79
Pleurisy	2
Pulmonary congestion, pulmonary apoplexy	3
Asthma	3
Pulmonary emphysema	1

DISEASES OF THE DIGESTIVE SYSTEM

Disease of the pharynx	1
Ulcer of the stomach	5
Other diseases of the stomach (cancer excepted)	9
Diarrhea and enteritis (under two years)	13
Diarrhea and enteritis (two years and over)	10
Appendicitis and typhlitis	5
Intestinal obstructions	7
Other diseases of the intestines	10
Cirrhosis of the liver	4
Other diseases of the liver	1
Simple peritonitis (nonpuerperal)	8
Other diseases of the digestive system (except cancer and tuberculosis)	2

DISEASES OF THE GENITO-URINARY SYSTEM

Acute nephritis	14
Bright's disease	33
Disease of the bladder	1
Disease of the urethra, urinary abscess, etc.	1
Disease of the prostate	2
Salpingitis and other diseases of female genital organs	1

THE PUERPERAL STATE

Puerperal septicemia	3
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DISEASES OF THE SKIN

Acute abscess	1
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REPORT OF STATE BOARD OF HEALTH

DISEASES OF EARLY INFANCY

Premature birth.....	21
Congenital debility, atrophy, marasmus, etc.....	22
Other diseases peculiar to early infancy.....	2
Stillbirths.....	42

OLD AGE

Senility.....	38
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AFFECTIONS PRODUCED BY EXTERNAL CAUSES

Suicide by poison.....	8
Suicide by hanging or strangulation.....	3
Suicide by drowning.....	1
Suicide by firearms.....	21
Suicide by cutting or piercing instruments.....	1
Other suicides.....	1
Poisoning by food.....	1
Other acute poisonings.....	2
Conflagration.....	3
Burns (conflagration excepted).....	4
Absorption of deleterious gases (conflagration excepted).....	1
Accidental drowning.....	9
Traumatism by firearms.....	2
Traumatism by fall.....	7
Traumatism in mines and quarries.....	23
Traumatism by machines.....	6
Railroad accidents and injuries.....	35
Automobile accidents and injuries.....	1
Injuries by other vehicles.....	1
Land slide, other injuries.....	1
Injuries by animals.....	3
Lightning.....	2
Homicide by firearms.....	15
Homicide by cutting or piercing instruments.....	2
Homicide by other means.....	2
Fractures (cause not specified).....	8

ILL-DEFINED DISEASES

Cause of death ill-defined.....	25
Cause of death not specified, or unknown.....	27
Ill-defined organic disease.....	2

BIRTHS ACCORDING TO SEX, COLOR, AND NATIONALITY OF PARENTS
For the Year Ending December 31, 1914

Counties	Half-breeds— White and red.....		1		Black.....	Red.....	Yellow	White.....	Both parents unknown.....	Mother native, father unknown...	Both parents foreign	Father native, mother foreign.....	Mother native, father foreign	Both parents native	Twins, pairs.....	Illegitimate.....	Stillbirths	Females.....	Males.....	Total births.....
Churchill.....	54							54			8	3	2	40	1			23	31	54
Clark.....	81							79		2	9	4	4	62		2		41	40	81
Douglas ^a	39							39			9	3	3	18			1	14	14	39
Elko.....	161					2		154	2		26	12	6	111	3			79	82	161
Emeralda ^a	85							85			14	3	8	60			3	45	40	85
Eureka.....	27							27			8	1	8	9			1	14	13	27
Humboldt.....	103				1			99		1	32	5	5	57		2	2	54	49	103
Idaho.....	23							23			10		1	12				11	13	23
Lincoln.....	47							47			3			39			1	20	27	47
Lyon.....	61							61			20			35	1			30	31	61
Mineral.....	11							11			3			4			3	3	8	11
Nye.....	121							120			37	1	8	62	3	1	1	54	67	121
Ormsby.....	33							31			5		2	25				19	14	33
Storey.....	33							33			3		3	26				15	17	33
Washoe.....	283							282		3	97		9	149			3	136	147	283
White Pine.....	154							154			34		9	96	1		4	75	79	154
Totals.....	1316					5		1299		6	318	62	108	805	13	8	25	644	672	1316

*The December reports from Esmera'da and Douzlas Counties came in too late for entry in this report.

REPORT OF STATE BOARD OF HEALTH

DEATHS ACCORDING TO AGE, SEX, COLOR, AND SOCIAL CONDITION
From January 1 to December 31, 1914

Counties	Important ages	Married											Single											Divorced											Unknown											Stillbirths										
		Under 1 yr.	1 to 5 yrs.	5 to 10 yrs.	10 to 20 yrs.	20 to 30 yrs.	30 to 40 yrs.	40 to 50 yrs.	50 to 60 yrs.	60 to 70 yrs.	70 to 80 yrs.	80 to 90 yrs.	90 to 100 yrs.	100 yrs. or over	Unknown	Native	Foreign	Unknown	Single	Married	Widowed	Divorced	Unknown	Stillbirths																																
Churchill	4	3	1	1	1	6	8	3	10	5	4	---	---	---	16	35	10	2	17	25	5	---	---	1																																
Clark	4	1	1	---	7	7	7	2	2	3	3	---	---	---	14	21	11	4	16	11	7	4	2	1																																
Douglas ^a	4	1	1	---	7	1	4	1	2	2	1	1	---	---	14	65	19	4	5	13	4	4	---	---																																
Elko	14	3	1	4	15	10	6	12	11	11	5	---	---	---	26	65	13	6	45	25	11	---	---	2																																
Emeralda ^a	7	1	1	1	4	4	4	15	6	2	2	---	---	---	13	48	9	4	29	19	9	---	---	4																																
Esmeralda	1	1	1	---	17	10	6	12	11	11	1	---	---	---	15	3	2	9	6	7	4	---	---	1																																
Eureka	1	1	1	---	4	4	7	7	6	2	3	---	---	---	44	33	15	2	25	13	7	---	---	8																																
Humboldt	8	2	2	1	8	4	4	9	9	4	4	---	---	---	44	7	9	9	10	6	2	---	---	1																																
Indian	2	2	1	1	2	6	3	2	5	3	---	---	---	---	12	21	7	3	12	13	4	---	---	2																																
Lincoln	2	2	1	1	2	3	3	2	5	6	---	---	---	---	31	35	15	8	19	17	11	---	---	2																																
Lyon	5	2	1	2	6	4	4	6	7	1	4	---	---	---	16	31	5	1	9	8	---	---	---	1																																
Mineral	1	1	1	1	1	2	2	3	4	3	---	---	---	---	34	18	33	3	23	15	14	---	---	1																																
Nye	1	2	3	2	9	14	13	16	8	3	1	---	---	---	63	45	31	3	39	30	6	---	---	1																																
Ormsby	6	2	2	2	10	12	10	11	2	1	---	---	---	---	34	18	33	3	23	15	14	---	---	1																																
Storey	5	7	1	1	6	6	6	9	11	8	---	---	---	---	14	29	19	3	20	16	14	---	---	5																																
Washoe	21	10	4	10	31	35	35	38	36	15	2	---	---	---	89	89	15	1	119	89	62	---	---	6																																
White Pine	15	4	1	3	12	13	7	6	5	7	4	---	---	---	62	21	4	42	4	6	5	---	---	6																																
Totals	95	40	12	29	109	116	115	122	131	111	61	10	---	---	682	297	54	436	315	161	19	53	28	---																																

^aThe December reports from Esmera'da and Douglas Counties came in too late for entry in this report.

REPORT OF STATE BOARD OF HEALTH

17

CONTAGIOUS, INFECTIOUS AND COMMUNICABLE DISEASES REPORTED BY THE LOCAL HEALTH OFFICERS For the Year Ending December 31, 1914

County	Scarlet fever		Small-pox		Diphtheria and membranous croup		Typhoid fever		Whooping cough		Measles		Chickenpox		Pneumonia		Tuberculosis		Bronchitis		Acute anterior poliomyelitis		Cerebrospinal meningitis		Diarrheal diseases of children		Cancer		Puerperal septicaemia		Rocky mountain spotted or tick fever	
	Cb	Dc	C	D	C	D	C	D	C	D	C	D	C	D	C	D	C	D	C	D	C	D	C	D	C	D	C	D	C	D	C	D
Churchill	16						7		3		1				6	1	7	3	9				2		27	1	1	1	2			
Clark			1				3		33		2		4		1	1	6	4					1		1				1			
Douglas							1		1		6		3		2								1		1				1			
Elko	22	1	5				20	1	47	1	18		7		35	5	28	11	189				1		1		10	3				
Esmeralda ^a															12	4	45	5	48				1		32		3	2				
Eureka	7		1		2		11	1			1		9		3	1	1	1														
Humboldt	3	1					24	2	5		1				36		10	1	34	1			6	4	1		4	2	2		9	
Lander							7		3	10	28				6	4	1	1	7													
Lincoln							2	1	4																							
Lyon	5		3		1	1	14		16		6		5		11	4	11	3	21								1	1				
Mineral ^a							2	1	1		4				4	3	9	2	38		1	1			49	3	4	1	2	1		
Nye			5		2		14		108		202				30	7	78	12	43				3	2	15	2	2					
Ormsby	3						14		33		2		44		38	4	41	9	72	1	2			2	2	54	1		1			
Storey	9						4		72		8		8		10	3	1	1	10	1				73	12	3			5			
Washoe	40	1	25		1		115	3	202		61		123		117	23	73	11	384				2	2	192	1	50	16	3	1		
White Pine			1				7		143				19		18	3	6	3	61		1	1			30	2	4	1	2	2		
Totals	105	2	41		6	1	145	12	678	3	331		311		329	63	317	67	916	3	4	2	18	15	524	22	94	30	17	8	9	

^aThe December reports from Esmeralda and Douglas Counties came in too late for entry in this report. ^bC—Cases. ^cD—Deaths.

DEATHS FROM ALL CAUSES (International Classification)
From January 1 to December 31, 1914

GENERAL DISEASES	
Typhoid fever.....	12
Malaria.....	1
Scarlet fever.....	2
Whooping cough.....	3
Influenza.....	2
Dysentery.....	5
Erysipelas.....	1
Purulent infection and septicemia.....	21
Anthrax.....	1
TUBERCULOSIS	
Tuberculosis of the lungs.....	59
Acute miliary tuberculosis.....	2
Tubercular meningitis.....	1
Tuberculosis of other organs.....	4
Syphilis.....	3
Pneumonokoniosis.....	10
CANCER	
Cancer of the buccal cavity.....	1
Cancer of the stomach and liver.....	17
Cancer of the female genital organs.....	5
Cancer of the breast.....	5
Cancer of the skin.....	1
Cancer of other unspecified organs.....	7
Spindle cell sarcoma.....	1
Diabetes.....	4
Anemia, chlorosis.....	1
Alcoholism (acute or chronic).....	12
DISEASES OF THE NERVOUS SYSTEM	
Simple meningitis.....	2
Cerebrospinal meningitis.....	8
Locomotor ataxia.....	1
Other diseases of the spinal cord.....	1
Cerebral hemorrhage.....	43
Softening of the brain.....	10
Paralysis without specified cause.....	6
Other forms of mental alienation.....	1
Epilepsy.....	5
Convulsions (nonpuerperal).....	1
Convulsions of infants.....	1
Other diseases of the nervous system.....	7
DISEASES OF THE CIRCULATORY SYSTEM	
Pericarditis.....	2
Acute endocarditis.....	11
Organic disease of the heart.....	90
Angina pectoris.....	9
Disease of the arteries, atheroma, aneurism, etc.....	18
Embolism and thrombosis.....	9
Purpura hemorrhagica.....	2
Hemorrhage; other diseases of the circulatory system.....	7
DISEASES OF THE RESPIRATORY SYSTEM	
Diseases of the larynx.....	1
Acute bronchitis.....	6
Chronic bronchitis.....	2
Broncho pneumonia.....	17
Lobar pneumonia.....	39
Pneumonia (undefined).....	23
Pulmonary congestion, pulmonary apoplexy.....	3
Gangrene of the lung.....	1
Asthma.....	9
Pulmonary emphysema.....	1

DISEASES OF THE DIGESTIVE SYSTEM

Other diseases of the stomach (cancer excepted)	4
Diarrhea and enteritis (under two years)	23
Diarrhea and enteritis (two years and over)	7
Appendicitis and typhlitis	4
Hernia	1
Intestinal obstructions	9
Other diseases of the intestines	4
Acute yellow atrophy of the liver	1
Cirrhosis of the liver	12
Biliary calculi	1
Other diseases of the liver	3
Simple peritonitis (nonpuerperal)	13

DISEASES OF THE GENITO-URINARY SYSTEM

Acute nephritis	7
Bright's disease	50
Other diseases of the kidneys and annexa	1
Calculi of the urinary passages	2
Diseases of the bladder	3
Diseases of the urethra, urinary abscess, etc.	1
Diseases of the prostate	2

THE PUERPERAL STATE

Puerperal septicemia	7
Puerperal albuminaria and convulsions	1
Cesarean section	1

DISEASES OF THE SKIN

Gangrene	3
Acute abscess	3

DISEASES OF THE BONES

Amputations	2
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DISEASES OF EARLY INFANCY

Premature birth	27
Congenital debility, atrophy, marasmus, etc.	20
Stillbirths	28

OLD AGE

Senility	39
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AFFECTIONS PRODUCED BY EXTERNAL CAUSES

Suicide by poison	4
Suicide by hanging or strangulation	1
Suicide by firearms	24
Suicide by piercing instruments	2
Other suicides	2
Poisoning by food	1
Other acute poisonings	1
Burns (conflagration excepted)	6
Absorption of deleterious gases (conflagration excepted)	2
Accidental drowning	7
Traumatism by firearms	3
Traumatism by fall	3
Traumatism in mines and quarries	27
Railroad accidents and injuries	25
Automobile accidents and injuries	7
Injuries by other vehicles	3
Injuries by animals	1
Starvation	2
Excessive cold	1
Effects of heat	1
Electricity (lightning excepted)	3
Homicides (by firearms)	18
Homicides by cutting or piercing instruments	3
Fractures (cause not specified)	2
Other injuries	1

ILL-DEFINED DISEASES

Cause of death ill-defined	16
Cause of death not specified, or unknown	21

DR. CHARLES V. CHAPIN VISITS THE NEVADA BOARD

In June, 1914, Dr. Charles V. Chapin of Providence, Rhode Island, nestor of American public-health matters, called upon the State Board of Health. He has devoted quite two score of years of his valuable time to the study of public-health matters. Every suggestion of his, by reason his erudition, familiarity with the subject, and long association with the most cultured of the profession, is pregnant with enlightenment, and of deepest significance.

Among other matters discussed, he pointed out the importance of increasing the scope of the board's activities, and of greater efficiency.

At the semiannual meeting of the State Board in Carson City on July 6, 1914, Dr. Mark F. Boyd, pathologist and bacteriologist of the Hygienic Laboratory in Reno, Nevada, was present by request of Dr. Hood, the President.

After disposing of the routine matters coming before the board, the following letter was drafted and the Secretary instructed to send it to Dr. Blue:

CARSON CITY, NEVADA, July 12, 1914.

DR. RUPERT BLUE, *Surgeon-General, United States Public Health Service, Washington, D. C.*

GENERAL: The Nevada State Board of Health desires to present to the next Legislature a bill reorganizing the State Board of Health along the lines of the greatest efficiency, and desires that the bill submitted to the Legislature will prove the best foundation for the future development of the board's activities.

To assist in the endeavor, the board at its last semiannual meeting, held at Carson City, July 6, 1914, decided to request that the Surgeon-General of the United States Public Health Service detail an experienced representative of his staff to the State of Nevada for the purpose of studying Nevada conditions in relation to public-health administration and the present public-health activities of the State, and embody the results of his investigations in a report to the State Board of Health, outlining plans for a reorganization of the State's public health activities, such a report to be made the basis of future legislation.

Respectfully,

S. L. LEE, *Secretary.*

On the 11th day of August, 1914, the following reply was received:

TREASURY DEPARTMENT,
BUREAU OF PUBLIC HEALTH SERVICE,
WASHINGTON, August 7, 1914.

DR. S. L. LEE, *Secretary State Board of Health, Carson City, Nevada.*

DEAR DOCTOR: My absence in New Orleans, on account of the plague situation, has caused some delay in replying to your letter of the 12th instant, requesting on behalf of your board an investigation of public-health administration in Nevada.

It would be impracticable for me to comply with this request in the immediate future, since a number of other States have previously made similar requests and must be given attention in the order in which they were received. In case there is no special need of haste for the investigation in your State, I shall be pleased to keep the request on file, and comply with it as soon as the status of other investigations will permit.

Respectfully,

RUPERT BLUE, *Surgeon-General.*

Up to the present date (December 20, 1914), nothing more has been heard from the Surgeon-General.

THE IMPORTANCE OF VITAL STATISTICS REPORTS IN PUBLIC-HEALTH ADMINISTRATION

There was an interval of eighteen years between the creation of the State Board of Health in Nevada and the passage of the Vital Statistics Law in 1911.

Much good has been accomplished by these morbidity reports, but the greatest success, along these lines, can never be attained until the local health officers and the profession at large can be induced to work in harmony with the State Board, observing the spirit as well as the letter of the law in an endeavor to secure and report all information pertaining to human statistics, possible of acquirement, in their respective localities.

Doctor Trask, Assistant Surgeon-General of the Public Health Service, in an address to the Sanitary Officers of Arkansas, pointed out the duties of those officers, the importance of their work, and the resultant good so cogently and forcibly that we feel his views, as enunciated at Little Rock, would be more likely to accomplish the end desired than anything we might say or suggest in behalf of the measure.

THE IMPORTANCE OF THE LOCAL HEALTH OFFICER AND HIS WORK

By JOHN W. TRASK,

Assistant Surgeon-General, United States Public Health Service.

[An address delivered before the First Annual Conference of Sanitary Officers of Arkansas, held at Little Rock, Arkansas, October 28, 29, 1913.]

The public health is second in importance only to the honesty and integrity of the people, if it is second to even these, for it is undoubtedly true that the honesty and integrity of a community or a race depend in no small measure upon its health. Upon the health of a people depends also their prosperity. Modern life is in large measure competitive, and the sick cannot hope to compete with advantage against the well.

You, the local health officers of Arkansas, are the men upon whom depends, in a large part, the protection of the health of the State. You have a State Department of Health in charge of an able man who has made a study of health administration, but in the end he must depend largely upon you for whatever success may be attained in state health work. You are in reality a part of the machine that has for its work the prevention of disease in the State of Arkansas. As the health of each of your communities depends upon the health of all the individuals in it, so the health of the State depends upon the health of its various cities and counties. You are the men upon whom fall the duty and responsibility of preventing disease in your respective cities and counties. The State Health Department cannot do it for you unless it displaces you and acts in your stead. You are essentially a part of the state health organization and must share in the credit for its successes and in the blame for any failures there may be. You have responsibilities to your respective communities, but your responsibilities to the State are just as great, for disease is no respecter of city or county boundaries, and the welfare of the State depends in a measure on health conditions in each of your cities and counties.

These statements apply not only to Arkansas and its local health officers, but to every State in the Union, and to the local health officers of every State.

The work of the State Health Department, and your work as a part of the department, is the prevention of disease. In preventing or controlling any disease the first thing that must be done is to find whether the disease is present, where it is, and under what conditions it is occurring. This is true, whether the disease is yellow fever or malaria, smallpox or typhoid fever, trachoma or tuberculosis, opthalmia neonatorum, or any of the industrial diseases.

The only way in which the health officer can learn when dangerous diseases are present and where preventable diseases are occurring is by having physicians report the cases they find. Physicians go into the houses of the sick and in that way know what diseases are present. The health officer does not see the sick as the physicians do, and he must therefore depend upon the latter for his information as to what diseases are present, and where they are. The satisfactory control of disease is impossible without the physician's cooperation in this way.

Every practising physician is therefore a working part of the health department. He has a responsibility he cannot avoid without doing injury to the community and likewise to the families to which he is the medical adviser, for these families are part of the community which suffers by his neglect. Practising physicians are the skirmish line and the pickets of the health department, upon whom falls the duty of giving information of the presence of the enemy,

the appearance in the community of cases of those diseases which it is the duty of the health department to control.

The work of the health officer has been undergoing a rapid change. Not so many years ago the duties of the health officer were limited to attempts to control only the graver diseases which were occasionally epidemic, such as cholera, plague, and yellow fever. The work of the health department has grown with the increased and more definite knowledge of the causes of disease which has been obtained during the last thirty years and to which additions are being constantly made.

Disease is now known not to be due to odors or decaying vegetation, to vapors from stagnant pools, or to the breathing of sewer gas. Disease is known to be due either to living organisms which are spread from individual to individual by contact or by other means, or to improper conditions of living.

The work of the health officer is the prevention of disease in so far as we have knowledge as to how the disease can be prevented. His activities, therefore, are limited to the control of the preventable diseases, which, due to our increased information regarding diseases and the manner in which they are spread, is a broad field.

In the control of disease the first thing the health officer must know is what diseases are present, where the cases are, and under what conditions they are occurring. Without this information he is practically helpless. He cannot control diseases unless he knows whether or not they are present, and when he knows what diseases are present he is still in large measure helpless until he knows where and under what conditions cases are occurring. If the community is to receive proper protection, the health officer must know of the occurrence and location of cases of the communicable diseases, for each case constitutes a focus from which the disease may spread to others. No one would attempt in this day and age to control scarlet fever in a town or city unless he had some means of knowing of the cases that were present, nor would he attempt to control diphtheria or yellow fever without information of existing cases. A knowledge of the occurrence of cases is just as necessary to the health officer in controlling typhoid fever or tuberculosis.

The necessity for a knowledge of the occurrence of cases in the prevention of disease is not limited to the communicable diseases. This knowledge is equally required in maladies due to improper living or working conditions. Many States are now attempting to prevent what are known as the industrial diseases and particularly the industrial poisonings, such as lead poisoning. To prevent these it is necessary to have the cases that do occur reported, for each case so reported shows the existence of conditions capable of producing the disease—conditions that should be remedied and usually can be. In fact, attempts at the control of any disease will be in large measure ineffective unless based upon and controlled by cases reported.

In health administration, morbidity reports—that is, reports of cases of sickness—serve several purposes, which may be briefly stated to be as follows:

1. In the communicable diseases morbidity reports show the occurrence of cases which constitute foci from which the disease may spread to others, as in scarlet fever, typhoid fever, tuberculosis, or yellow fever, and make it possible to take proper precautions to protect the family of the patient, his associates, or the community at large.

2. In some diseases morbidity reports make it possible to see that the sick receive proper treatment, as in ophthalmia neonatorum, diphtheria, and, in certain cities, tuberculosis. The reporting of cases of ophthalmia in the new-born makes it possible to save the sight of the infants who would otherwise not receive adequate treatment until after much damage had been done. In diphtheria the health department can be of service in furnishing antitoxin. Some cities furnish hospital or other relief to consumptives, who would otherwise be without proper treatment.

3. In diseases that are not communicable, such as those due to occupation or environment, reported cases show the location of conditions which are causing illness or injury. This makes it possible to remedy the faulty conditions, so that others may not be similarly injured.

4. In certain diseases, of which the cause or means of spread is unknown, morbidity reports show their geographic distribution and varying prevalence, and the conditions under which cases occur. This information has great potential value in attempts to ascertain their causes and means of spread.

5. Reports of the occurrence of disease are necessary to show the need of cer-

tain sanitary measures or works and control and check the efficiency of such measures or works when put into operation. In pulmonary tuberculosis such reports show the number of consumptives in the community and the need of sanatoria. In malaria they show the prevalence of the disease, the need for drainage and other antimosquito work, the efficiency of such work when in operation, and when a change in the prophylactic measures or additional ones are necessary. In typhoid fever they show faults in the water supply, or in the control of the production and distribution of milk, or in the disposal of excreta in special localities.

6. Morbidity reports when recorded over a period of time and properly compiled become a record of the past occurrence of disease. They show the relative prevalence of disease from year to year and under varying conditions. They show the effect of the introduction of public-health measures and sanitary works. They give a history of disease not obtainable in their absence.

To do efficient work as health officers you will need to know at all times which of the preventable diseases are present in your respective communities, and how prevalent they are, and, when you get down to the work of really controlling any one of them, you will immediately want to know where the cases are.

The State has made it possible for you to have this information by requiring that physicians shall report to you all cases of certain diseases coming to their knowledge. The enforcement of this measure, however, in your respective counties and cities has been placed in your hands, so that you, and you alone, are to blame if the cases are not reported and you do not know at all times the status of these diseases within your jurisdictions. In securing these reports you will have the cooperation of every law-abiding or public-spirited physician practising in your city or county. The people of Arkansas have, through their Legislature and State Board of Health, made it a misdemeanor for a physician to fail to report to you every recognized case of certain designated diseases among his patients, and have fixed as a penalty for such failure a fine of not to exceed \$100, or imprisonment for not to exceed one month, or both fine and imprisonment.

This penalty is intended, of course, only for those who would not otherwise obey the law, and there should be few physicians requiring its application. Every intelligent physician will readily understand that these reports are necessary for the proper protection of his own patients as well as the community in general. He will also not want to be responsible for neglecting to report his cases of scarlet fever, diphtheria, and tuberculosis, for he will know that if others contract the disease from these unreported cases he is probably responsible, and not only responsible for the cases, but for any deaths there may be among them. Every physician has a number of families who look to him as their medical adviser. His failure to report a case of a communicable disease in one of these households may result in the infection being spread, directly or indirectly, to other households among his clientele. His own patients would therefore suffer by his neglect, and he would be true neither to his patients nor to the community, besides being a criminal in the eyes of the law. He would be violating the spirit of his ethical code and his citizenship.

You should, and undoubtedly will, receive the sincere cooperation of every physician worthy of your respect, and we trust that there are none otherwise in the State of Arkansas.

For the same reason that the practising physician should report his cases of the notifiable diseases to you, you should report the cases occurring in your city or county to the State Department of Health. The State Health Department should at all times have information of the occurrence and relative prevalence of the preventable diseases throughout the State. If you fail to give this information to the State Health Department, you are as culpable as the physician who does not report his case to you. In fact, you are probably more to blame, because you should more thoroughly realize its importance. It is only when the State Department of Health knows of the status of disease throughout the State that it can fulfil its proper functions. The reports received from the various cities and counties make it possible for your state health officer to know when there are threatened epidemics, and to notify you, so that you can take necessary measures to protect your respective communities. They enable him to know when disease is unusually prevalent and when extraordinary measures are indicated. It enables him also to keep you informed, by printed bulletin or otherwise, of the prevalence of disease in your vicinity and throughout the State; for it is important in your work that you know of the prevalence of disease in neighboring localities as well as in your own.

Your state health officer and you, as adjuncts of the State Health Department, will be interested in knowing of the occurrence of epidemics and the general prevalence of the preventable diseases in adjoining States. This will be of value in giving you early information of approaching epidemics, and will also enable you to compare the prevalence of disease in Arkansas with that in other States. For this purpose, the health authorities of the several States in conference with the Federal Public Health Service adopted a plan whereby the State Health Departments that have the information, report regularly to the Federal Public Health Service the reported prevalence of disease in their respective States. These reports are published in the Public Health Reports and sent to all persons engaged in health work who request it.

In conclusion, allow me to repeat that the success of your administration and the amount of protection you are able to give to the health of your respective cities and counties will depend largely upon the extent to which you know what preventable diseases are present, their prevalence, and the conditions under which the cases are occurring; that this information can be obtained only through reported cases; and that it depends upon you more than any one else as to whether you will have this knowledge.

VITAL STATISTICS

The practical value of a birth certificate has often been commented on. A recent criminal trial in North Carolina shows the importance of such records. In the case of the State v. Goodlake the question of the guilt or innocence of Goodlake depended on whether a girl was or was not 14 years old. It was admitted that she was over 13, but it was claimed that she was not yet 14. How was this point proved? In a State which had had modern birth registration for fourteen years, this would have been easy. The court would have called for a certified copy of the girl's birth record. But in North Carolina there has been no birth registration. How could the court ascertain the facts? An old family Bible was found with a record of the child's birth; the monthly report cards of her schoolteacher were introduced, and the teacher identified her records, and an old negro nurse testified as to the age of the child.

Family Bible records are known to be loosely kept, entries often being made months or even years after the events. The schoolteacher's records were only corroborative, while the "black mammy's" recollections after thirteen years were practically worthless. But the jury decided that the girl was 14 years old, and sent Goodlake to the penitentiary for eight years.

The Journal of the American Medical Association, commenting on this case, says: "We know nothing of the merits of the case, of the guilt or innocence of the accused or of the justice or the injustice of the verdict, but for a modern, civilized State to have to resort in court to such methods to prove the age of one of its wards is supremely absurd."

Evidently the people of North Carolina have come to the same conclusion, as the State Legislature has just passed the model bill for the registration of births and deaths. After this law is once fairly in working order, such occurrences as those that marked the Goodlake trial will be impossible.

Dr. John N. Huntly of Indiana, dying, left his valuable farm in trust of his unthrifty son, to go to his granddaughter on her twenty-first birthday. The girl had been told the date of her birth, and always celebrated on her birthday the annual recurrence of the same. However, when she believed she was 21, she claimed her inheritance; her father denied her age, saying she was only 19. The family Bible was appealed to, but the leaf with the record was gone. The court was in a quandary. A Solomon was needed for judgment. At last a neighbor remembered that a

valuable cow belonging to the grandfather had given birth to a calf on the day the girl was born, and he could swear to it. Perhaps the grandfather had recorded the date of the birth of the calf. His farm books showed this to be the case. *The date of birth of the human being was established.*

Dr. W. S. Rankin, Secretary of the State Board of Health and State Registrar of Vital Statistics of North Carolina, said of this law: "One can have hardly any adequate conception of the value of vital statistics who has not had personal experience in their application. I have found vital statistics worth more than all other considerations combined in making thoughtful, practical men take intelligent and effective interest in the importance of the public health of their localities. * * * I could continue to cite examples of the force of vital statistics when applied to the practical brains of a community. There are many people who will become enthused over generalities, but the practical, cool heads that we usually find dictating municipal policies are men who want facts, and the only way to reach this necessary influence in bringing about sanitary reforms is through vital statistics. Vital statistics are the right arm of the health officer, and, in my opinion, the greatest defect in our Southern States in promoting sanitary progress is the absence of vital statistics."

Dr. Frank W. Reilly, late Assistant Health Commissioner of Chicago, summarized the matter in the following words:

There is hardly a relation of life, from the cradle to the grave, in which the evidence furnished by accurate registration of births may not prove to be of the greatest value, as, for example, in the matter of descent; in the relations of guardians and wards; in the disabilities of minors; in the administration of estates, the settlement of insurance and pensions, the requirements of foreign countries concerning residence, marriage, and legacies; in marriage in our own country; in voting, and in jury and militia service; in the right to admission and practice in the professions, and to many public offices; in the enforcement of laws relating to education and to child labor, as well to various matters in the criminal code; the irresponsibility of children under ten years of age for crime and misdemeanor, the determination of the age of consent, etc. As the country becomes more densely settled and the struggle for existence sharper, many of these matters which have hitherto been of minor significance will take on a deeper meaning and acquire greater importance, hence the urgent necessity for remedy of the defects which prevent a proper registration of births.

PUBLIC-HEALTH ADMINISTRATION

The necessity for the amendment to the Act, as passed by the Legislature in 1913, was forcibly pointed out by Dr. W. C. Rucker, Assistant Surgeon-General, United States Public Health Service, in a paper read before the Federation of State Medical Boards of the United States, February 25, 1914, in the following language:

Three things are necessary to efficient public-health administration: The man, the power, and the starting-point. Having these, and a willingness to work for better public health, both on the part of the administrator and the administered, good results are bound to follow.

The watchword of the age is efficiency—the doing away with haphazard methods and the substitution therefor of the methods of precision. Nowhere has this change been more marked than in the technique of preventing and eradicating disease. This change has taken the form of efficiency in public-health administration. One might almost say that it has assumed the dignity of a science. Certainly it is the art of applying the principles of epidemiology.

Efficiency consists in the accomplishment of a given task in the minimum of time and with the minimum of effort. To accomplish this, it is necessary that one

know exactly what he wants to do, and that he have the power with which to do it. The knowing what you want to do, in public health work, is practical epidemiology, a knowledge of which is possessed by a relatively small number. The power with which to do it is legal and financial. Both are necessary.

Efficient public-health administration comprehends the practical application of the principles of epidemiology. This can be done only by persons who have a knowledge of that science. Such knowledge requires time and labor for its acquirement. In other words, the only person who can efficiently do epidemiological work is an epidemiologist.

Eternal vigilance is the price of freedom from disease. The epidemiologist must, therefore, devote all of his time to his official duties. In epidemiology no man can serve two masters. Therefore, public-health officials must be full-time officers. They must be adequately salaried. At the present time there are very few epidemiologists who receive a salary which is commensurate with the knowledge and labor which are required for the proper performance of their duties. Public health is a rather expensive necessity, and if the general public wants it, it will find that it can not get it from poorly prepared, underpaid men. The cornerstone of efficient public-health administration is the well-qualified, full-time, well-paid health officer. In the end it will be found that the employment of properly trained public-health officials at adequate salaries is a measure of economy. The inefficient health officer wastes public funds in poorly directed efforts, and he does not accomplish results. The health officer who has been well trained knows what to do and when to do it, and he accomplishes things with the minimum of friction and expense. The States and municipalities of this country are beginning to realize that in order to have their public-health work properly administered they must employ men of proper qualifications for this purpose, and there is, therefore, a gradually growing demand for well-trained health officers. The larger educational institutions are endeavoring to meet this demand by offering courses leading to the diploma of public health. This is the first step toward efficient public-health administration.

Granted an efficient public-health administrator, he is powerless without legal backing. His legal backing is sanitary law. Of sanitary law there is no dearth. The statute books of the States of this country and the ordinance files of the municipalities are strewn with a hodgepodge of sanitary legislation which is illogical, without sound basis of fact, and impractical of administration. It is a direct and tangible evidence of inefficiency in public-health legislation. The spirit in which this legislation was enacted was good, and was the result of a desire to remedy insanitary conditions. Unfortunately, a great mass of the sanitary law was enacted at a time when we did not have any very accurate knowledge regarding the factors in the dissemination of disease. Take, for example, the laws which have to do with the exhumation and transportation of the dead. In some of the States if the sanitary laws were enforced it would be impossible to move the body of a person dead of yellow fever, no matter whether that person had been dead for one day or for twenty years. In some States the transportation of the bodies of persons dead of smallpox is absolutely forbidden. Recently, in order to carry the bones of a marine, who died of smallpox ten years ago, from the Pacific to the Atlantic Coast, it was necessary to carry them by water to New York via Panama in order that there might be no infraction of state laws. Instances of this kind could be multiplied indefinitely. We all know that dead bodies have very little to do with the dissemination of disease, yet we permit these laws to stand on the statute books.

Idle laws are worse than no laws at all. Their lack of enforcement is a menace to all laws which it is desired to enforce, and instead of strengthening the hand of the administrator, they act as a deterrent to efficiency. One of the most useful things which could be done in furthering the cause of public health would be a revision of the sanitary law, and the repeal of laws which are impractical of administration, or which, if administered, would defeat the purpose for which they were enacted. It may be argued that this would be tearing down rather than an upbuilding process, and that in repealing these defective laws nothing would be placed in their stead.

In the great mass of sanitary legislation at present to be found on our statute books there is one notable omission. Few of the States have an efficient law for the collection of morbidity statistics. We have been marvelously illogical with regard to our vital statistics. We have collected data upon births, deaths, and marriages, none of which conditions is particularly dangerous to the public health, and have almost entirely lost sight of the sick man, who is the point from which

most human diseases are disseminated. Once a person is dead, his dangerousness is lost, and so far as practical public-health work is concerned he is an almost negligible factor. It is the living carrier of disease which is dangerous. Morbidity reports, particularly of the communicable diseases, show the location of cases which constitute foci from which disease may be spread to the well. The collection of morbidity reports thus makes it possible to know where to take the proper precautions for the protection of persons who may be exposed to a given disease, and therefore acts as a prophylactic measure for the community at large. This has an intensely practical bearing, because it not only makes it possible to prevent the spread of disease, but also enables this to be done at the minimum expense and with the minimum of effort. This is efficiency in its highest phase. There is also a humanitarian aspect of the question. The knowledge of the occurrence of a disease makes it possible to see that the sick receive proper treatment, not only from a preventive, but also from a curative, standpoint. Still another benefit accrues, particularly with regard to the diseases which are strictly environmental in character, as, for example, industrial diseases. The knowledge, for example, of the occurrence of a large number of cases of lead poisoning in a given factory points to the necessity for taking steps toward the protection of the health of the operatives there.

From the research aspect the collection of morbidity statistics is extremely important, because it enables careful study of the epidemiology of disease, and affords an opportunity of gaining increased information relative to its means of spread.

Morbidity statistics, from an administrative point of view, are of value to the local health officer in that they give him the knowledge upon which to undertake operations for the prevention of the spread of disease in this particular locality. The state health officer is able to apply this knowledge in controlling the extension of disease from the infected locality to the State at large, and he finds that unless he has an accurate knowledge of the occurrence of disease within his jurisdiction, the most important functions of his office are seriously handicapped. The United States Government, in its work of preventing the interstate spread of disease, finds that morbidity information is absolutely essential. The question has even an international aspect, because one nation cannot prevent the importation of disease from another without serious detriment to commerce unless it have precise information as to the international geographic distribution of sickness.

The collection of morbidity statistics requires, first of all, a proper legal backing. This means the enactment of a well-thought-out law. A model measure of this kind was adopted by the Annual Conference of State Health Authorities, with the Surgeon-General of the United States Public Health Service, at Minneapolis in 1913, and an attempt is being made to secure the passage of this law by the various State Legislatures. The next thing which is necessary in collecting morbidity statistics is cooperation. This cooperation begins with the practising physician. The law, of course, provides a penalty for infraction, but no penalty, no matter how severe, will make physicians report all their cases unless they earnestly desire to cooperate with the health officer in the prevention of the spread of disease. Every practising physician of intelligence realizes that if he fails to do his duty in this regard, he not only endangers the health of his patients and their families, but also that of the community at large. It is doubtful if any good doctor wants to assume the responsibility for neglecting to report his cases of communicable disease. Such an action would be in violation of the spirit of his ethical code and would reflect upon the integrity of his citizenship. He must cooperate with the health officer, and the health officer must cooperate with him. This requires tact and a certain degree of charity. Above all, a spirit of cooperation is essential.

When physicians fail to report cases of communicable disease, it is the result of ignorance, carelessness, or a desire to protect the interests of their patients. They would not be imbued by the latter desire if the general public were in thorough accord with the spirit of preventive medicine. It seems to the practical health administrator as though the most important single thing which should be taught in the campaign of public-health education which is now going on would be the necessity for making prompt and accurate morbidity reports. In this connection it may be pointed out that if the measures of quarantine, disinfection, and placarding are applied by the health officer with tact and charity much of the public opposition to reports of sickness would vanish.

Having the proper public-health administrator and legal backing, a third ingredient is necessary to efficient public-health administration. This is another

form of power—that is, money. Public health can be bought at a price. Compared with the returns which it brings, that price is not high. As a matter of fact, the dollar which is spent on public-health administration is an investment yielding a high rate of return to the public weal. This fact, simple as it seems to those of us who have studied the question closely, has not yet permeated the public mind, and sanitary appropriations are usually dealt out with a parsimonious and begrudging hand. The remedy for this condition of affairs is the education of our citizens to the point where they will appreciate the necessity for public-health work. We may lecture to them on the danger of disease, we may instruct them as to the means of its prevention, but we will never be able to bring them to a realization of the financial side of public-health administration until we are able to present an accurate credit sheet covering our work. It is necessary that the public-health administrator demonstrate in terms of dollars and cents that public health and public wealth are inseparable—that they are practically synonymous terms. The humanitarian aspect of the subject should not be forgotten, but it is of relatively small importance in a country in which the courts have fixed the value of human life at about \$5,000.

The value of cooperative effort cannot be overestimated. Among people who do not earnestly desire health it is well-nigh impossible, without the use of force, to bring about sanitary reforms. The general public, particularly in America, is wonderfully good-natured, and will undergo, without complaint, almost any inconvenience if it can be demonstrated that it is necessary. We have been carrying on a campaign of public education for years, and it is beginning to bear fruit. It is too much to expect that the sanitary administrator will ever arrive at a point where he has all the money and cooperation he could wish for, but if the signs of the times are aright, and if we will but carry on our work with intelligence and common sense, we will find that the citizenship of this country will willingly lend its assistance. These things are necessary to efficient public-health administration: The man, the well-trained, well-remunerated, full-time health officer; the power, the intelligent, uniform, accurate law, and the adequate appropriation; the knowledge of the location and prevalence of disease, in order that it may be controlled by cooperative effort of the general public, the medical profession, and the public-health administrator.

MORBIDITY REPORTS REVIEWED

Smallpox

Thirty-five cases of smallpox were reported throughout the State during the year. Twenty of those were from Washoe County, one or more from each of six counties, and none from the other nine counties in the State. All recovered.

During the month of June, 1914, there was considerable excitement in Tonopah over an exanthematous epidemic that a large majority of the physicians diagnosed "chickenpox." As eighty-nine cases of this disease had been reported during the months of March, April, May, and the first half of June, the contagion was generally accepted as such without discussion, as not a single case of smallpox had been reported by any physician in the city.

On the 16th of June one physician wired the State Board of Health: "Have three cases of smallpox. Health officer says not. What shall I do?"

The Secretary of the board wired to call in two prominent physicians to see the cases and report. This he refused to do, but reported the situation in garbled form to the Surgeon-General of the Public Health Service. The local health officer of Nye County, ex-officio chairman of the Nye County Board of Health, assured the State Board that the severity of the cases had been exaggerated; that they were chickenpox, and that the County Board of Health needed no assistance. His statement was fully corroborated by five prominent physicians of Tonopah. The results proved them correct, as all of the cases recovered and not a single case of either smallpox or chickenpox has been reported from Nye County since July.

Typhoid Fever

Typhoid fever has prevailed to a greater or less extent in all the counties of the State, with the single exception of Esmeralda. It was epidemical in Washoe. Two hundred and thirty-six cases were reported from the several counties during the year, twelve of which were fatal. The proportion of deaths to the total reported was small, it is true, but the great number stricken is evidence of sadly neglected hygienic conditions throughout the State.

Poliomyelitis

But four cases of infantile paralysis were reported during the year, two of which resulted fatally. Of the four cases cited, one was from Lyon, one from White Pine, and two from Ormsby County.

Cerebrospinal Meningitis

There were eighteen cases of this disease reported during the year. It is doubtful if the above gives the full number of all thus afflicted, but if correct, the disease must have been of unusual malignancy, as fifteen out of the eighteen cases reported were fatal.

Pneumonia

Pneumonia is always one of the greatest scourges of the human family in Nevada. The number afflicted with it during the year 1914 was large, notably so in Elko, Humboldt, Ormsby, Washoe, and White Pine Counties. Throughout the State 287 cases were reported, with 79 deaths; 17 of this number were of broncho-pneumonia.

Tuberculosis

During the year 294 cases of tuberculosis were reported. This is quite an increase over those reported for 1912 and 1913. Of the cases reported, 65 died.

Whooping Cough

Whooping cough was epidemical in Elko, Nye, Ormsby, Storey, Washoe, and White Pine Counties during the year. During the year 644 cases were reported by the local health officers, 3 being fatal.

Measles

Measles were epidemical in Nye and Washoe Counties. There were 323 cases reported, but no deaths.

Diphtheria

Throughout the State there were but five cases reported. Of this number, one died.

Scarlet Fever

Of the seventy-nine cases of scarlet fever reported for the year, only two were fatal.

Rocky Mountain Spotted (Tick) Fever

Of this disease nine cases were reported, none fatal. All of those reported were from Humboldt County. One developed in March, two in May, four in June, two in September, and one in October.

Puerperal Septicemia

Of the above disease nineteen cases were reported for the year. Eight cases were fatal.

Cerebral Hemorrhage

Of all diseases reported, cerebral hemorrhage shows the greatest increase of deaths. In 1912, with a death rate quite as large as that of

the present, there were but twenty-four fatal cases reported, while in 1913 forty-two, and in 1914 forty-three cases of this affliction terminated in death.

Anthrax

One case of human anthrax was reported from Churchill County. On account of the rarity of this disease in man, the clinical history of the case, by Dr. J. C. Ferrell, the attending physician, is included in this report.

Diarrheal and Enteric Diseases of Children

These diseases were epidemical in Nye, Ormsby, Storey, and Washoe Counties during the year, and reached their acme in May, June, July, and August. There were 510 cases reported for the year, resulting in 21 deaths. The cases in Storey County were of such virulence that the County Board of Health called to its aid Dr. Mark F. Boyd, Assistant Professor of Bacteriology, University of Nevada, to make a sanitary survey of Virginia City, Gold Hill, and Silver City, to ascertain, if possible, the cause of the epidemic, and report his findings, which are as follows:

The Honorable Board of Health, Virginia City, Nevada.

GENTLEMEN: I have the honor to present herewith a report upon the prevalence and causes of epidemic dysentery in Virginia City during the month of August, 1914, as determined by a study made at your request.

DYSENTERY IN VIRGINIA CITY IN PREVIOUS YEARS

The physicians report that they have not encountered this disease in their practise in Virginia City, previous to the present outbreak.

CHARACTER OF THE DISEASE

The onset of the disease is rapid and marked by grinding pains in the abdomen and diarrhea. The stools rapidly lose their fecal character and are composed almost entirely of blood and mucus, with a small amount of bile-tinged liquid. Their daily number was scarcely ever less than twenty, and some stated that they had forty or more passages. The patient has a constant desire to go to stool, and going, can only pass a small amount of mucus and blood. The fecal material in a few cases was a brilliant green with no blood. The tongues of all cases were thickly coated with a dirty brown fur. Except in the fatal cases the temperature rarely rose above 100°F. The pulse was increased to correspond with the temperature. Convalescence in the cases of longest duration is prolonged and marked by a profound emaciation, depression, and anemia. The stools lose their blood and mucus, fecal material is again seen, and the stools resume their form slowly. In the fatal cases the patient has a progressively rising temperature and dies on the fourth or fifth day of the disease in a state of collapse. The rectum is frequently prolapsed and has been observed to have a membranous coating.

GENERAL DISTRIBUTION OF CASES

I was able to visit thirty-seven cases of the disease, and there are probably ten cases I was unable to visit and question.

As nearly as could be ascertained the time of onset was as follows:

The week ending August 1.....	0
The week ending August 8.....	4
The week ending August 15.....	7
The week ending August 22.....	16
The week ending August 29.....	10
The week ending September 5.....	0
Total.....	37

The earliest reported case occurred August 7, which may be considered the onset of the epidemic. The maximum occurred during the third week of August and declined from that time. It is believed that the epidemic is passed, and that new cases occurring will, in all probability, be in the houses of existing cases, unless due precautions are observed.

The distribution of the cases according to age and sex is unusual. The following table gives the cases investigated:

Age	Males	Females	Total
Under 1 year	2	1	3
1 to 5	10	10	20
6 to 10	3	1	4
11 to 15	1	1	2
16 to 20	0	1	1
21 to 25	0	0	0
25 to 30	0	1	1
31 to 35	1	2	3
35 to 40	0	1	1
41 and over	1	1	2
Total	18	19	37

The distribution between sexes is equal, but the unusual feature is the preponderance of cases in young children under 10 years of age, twenty-seven being under 10. This indicates that the cause of the epidemic reached a greater proportion of the population under 10 years of age than over this age.

With one exception all of the cases had been at home for some time previous to the onset.

A map has been prepared showing the residence of each patient. By a study of this map it is seen that the distribution of the cases is not general over the city. Of the cases visited, all except four resided north of Washington Street, which divides the city into nearly equal north and south halves. No cases occurred south of the Savage works. The distribution of the cases by week of onset shows that the earliest cases are widely separated from each other in the north half of the city, and this holds true for most of the cases developing subsequently.

GENERAL CONSIDERATIONS

In attempting to find the origin of this epidemic the following considerations must be borne in mind:

- (1) The epidemic has been limited to Virginia City, no cases have been reported from the neighboring towns of Gold Hill and Silver. The cause of the epidemic must then be localized to this city.
- (2) Within the city the distribution of cases has not been uniform, affecting principally children under 10 and those living north of Washington Street, and living under diverse conditions. The cause then must not be uniformly widespread.
- (3) The outbreak was sudden, affecting within a short time a large number of people with little in common. This indicates a single common cause, since it is highly improbable that a number of different causes should have begun to be operative so nearly the same time.
- (4) So far as is known, dysentery is usually caused by taking dysentery germs into the mouth, most commonly by food or drink. They are destroyed by the temperatures usually employed in cooking food.
- (5) Dysentery germs, whenever found, have come recently from the bowel discharges of people infected with the germs. The infected person may be one sick at the time with dysentery or one who has recovered from an attack of the disease, but continues to harbor the germs, or one in whose intestines the germs are present without causing symptoms of the disease.

The most probable cause of the epidemic is to be sought in some article of food or drink distributed among the residents of Virginia City, and not among the residents of Gold Hill or Silver.

INVESTIGATION OF CAUSES

To ascertain if such a case could be found, I visited thirty-seven cases with the attending physician. Inquiry was made as to age, sex, and occupation of each patient, the dates of onset of illness, association with previous cases of dysentery, places where food and drink had been taken, the use and sources of milk, ice-cream, raw fruits, vegetables, and water. The sanitary conditions of the different houses and the prevalence of flies were noted.

ASSOCIATION WITH PREVIOUS CASES OF DYSENTERY

Persons intimately associated with a case of dysentery, especially those living in the same house, are liable to contract the disease. They are frequently called secondary cases. The incubation period is usually not over five days. When successive cases develop in a family, there is always to be considered the probability that the second may have contracted the infection from the first.

Of the 37 cases investigated all were found to have been intimately associated with previous cases in the same families. Some of these cases may be due to the operation of the same sources of infection as caused the first case.

The interval between the development of two or more cases in the same family is given in the following table:

Interval in days									Total
1	2	3	4	5	6	7	8	9	10
0	3	1	1	0	0	1	2	2	1.....11

SANITARY CONDITION OF PREMISES

Good	5
Fair	18
Poor	12
Not determined in	2

It is evident that the sanitary conditions at home have not appreciably affected the introduction of the disease.

FLIES

None seen	10
Few present	17
Numerous	10

If flies played an important part in the dissemination of this outbreak, we would expect to find the cases closely grouped, instead of distributed over a wider area than we may expect infected flies to travel.

RAW FRUITS AND VEGETABLES

In six cases it was ascertained that the patient had eaten raw fruit or vegetables, such as tomatoes and apples. In five cases they were purchased, and raised at home in one instance. Twenty-one cases had not partaken of either raw fruits or vegetables, and in ten cases the history was not ascertained. Considering this cause it is evident that contaminated vegetables are not a common factor.

WATER

In nine cases the drinking water had been boiled for some time previous to the onset of the disease, and in twenty-eight cases the water had not been boiled.

The only water supply in Virginia City, Gold Hill, and Silver is the public supply furnished by the Virginia and Gold Hill Water Company. I have been over the area in the mountains above Lake Tahoe and at Lake Marlette where the water is collected for distribution in Virginia City and adjoining towns. The sanitary condition of the watersheds is good. I have also been over the flume lines in the vicinity of Virginia, and have inspected their head boxes and tanks. In so far as I inspected their system, I found no opportunities for contamination of the water. Sanitary, chemical, and bacteriological examination of water supplies collected in Virginia City corroborate the results of the inspection.

On August 29 and 30 many people noticed a marked taste and odor in the water. Such tastes and odors in public water supplies frequently occur where water supplies are drawn from shallow lakes and reservoirs. They are due to volatile oils liberated from the bodies of certain microscopic green plants known as algæ, which grow rapidly in shallow water in the sunlight. In this instance algal growth in the Hobart Creek reservoir was responsible for the odor and taste, and as soon as this supply was shut off, the odor and taste ceased. While such odors and tastes are sometimes frequent, yet they are without sanitary significance and do not make water dangerous or unsafe, even though very unpleasant to the senses.

If the drinking water had been the cause of this epidemic we should expect a much greater number of cases, as all people in these three towns drink this water. The cases would also be fairly uniformly distributed through all age groups of the population, instead of being grouped principally among those under 10 years of age. We would also expect to find cases distributed over

the entire area of distribution of this water, instead of being restricted to a certain district in Virginia City.

ICE-CREAM

In two cases was it ascertained that the patients had eaten ice-cream previous to their illness. It is evident that this is not a cause common to all the cases.

MILK

Milk was in some form used by 36 of the 37 cases visited. Thirty-four used milk as a beverage and in two milk was used only in tea and coffee. In three families milk was scalded before using, and in one was boiled.

The milk consumed by the 36 persons who used milk was supplied by the three dairies of Virginia City. All produce their own milk. We shall designate their dairies as X, Y, Z.

Dairy X had 4 cases among its patrons, Dairy Y had 3 cases, and Dairy Z had 28. The great majority of cases are thus seen to have been users of the milk of Dairy Z.

In order to show that a milk supply has been the cause of an epidemic, it is necessary to show that all or the greater majority of the patients were consumers of such milk; that the cases are most frequent in the class of people using milk most freely; that the occurrence of the disease has been approximately limited to the distribution of the milk; that opportunity for the contamination of the milk has occurred, and finally to rule out all other causes which might reasonably account for the epidemic.

As shown above, association with previous cases, raw fruit and vegetables, ice-cream, and water may be quite definitely excluded as important factors in causing the epidemic.

The milk supply was the only common factor of food or drink common to the great majority of patients who were studied carefully. The character of the epidemic was similar to milk-born epidemics generally. They are usually sudden and explosive. The persons attacked are those who use milk extensively, and for this reason persons under ten years of age are usually the largest percentage of the patients. The distribution of the cases is very nearly the same as the limits of distribution of the infected milk supply.

MILK SUPPLY

Virginia City receives its milk supply from three dairies which have been designated X, Y, and Z. Dairy X is located in a canyon to the north of the city. I have inspected the premises and inquired into the manner of handling the milk and scored it upon the Official Dairy Score Card and given it a rating of 57.5 of a possible 100. This dairy supplies about 150 customers in Virginia City. It also supplies the local ice-cream makers. I was unable to ascertain any possibilities of this milk having been infected. Cases of dysentery developed in three families who were patrons of this dairy and in one instance a secondary case developed.

Dairy Y is located in the southern part of the city, near the Divide. I have inspected the premises and inquired into the method of handling the milk and gave it a rating of 55.5. This dairy supplies about 175 customers in Virginia City and Gold Hill. I was unable to ascertain any possibilities of this milk having been infected. One family on this route was infected, and in it three cases developed.

Dairy Z is situated in the eastern part of the city. I have inspected the premises and inquired into the method of handling the milk. I rated this dairy at 22.5 out of a possible 100. This dairy supplies about 125 patrons in Virginia City, principally in the northern part. Twenty-one families supplied by this dairy were infected with dysentery, and in them twenty-eight cases developed. Five of the secondary cases in these families used this milk up to the onset of the disease, so that it is not clear whether they are really secondary or primary cases.

On August 12 a case of dysentery occurred in a member of the family of Dairyman Z, aged 7. With the exception of the dairyman no members of the family assist in the dairy operations. I am informed that for some time after the onset the undisinfected stools of this case were placed directly into the closet. At this dairy the stables and the room in which the milk cans are stored after washing, are directly under the house and attached shed. The room in which the milk cans are kept is directly under the shed which contains the water-closet. The

boards in the walls of the closet are warped and the cracks are open; there is an irregular opening in the wall over a foot in diameter. There is nothing to prevent the exit or entrance of flies from the place. The room in which the milk cans are stored opens directly into the stable and stable-yard, and is not protected from flies in any manner.

Flies were extremely abundant on all portions of the premises visited, and a fly conveying infection from the undisinfected fecal material in the closet would not have to fly far or encounter any difficulty in reaching the milk cans in the room below.

The case in the family of the dairyman does not represent the earliest case in the outbreak, but it is significant that all the cases preceding this case in the dairyman's family used milk from this dairy as a beverage.

EVIDENCE THAT MILK FROM DAIRY Z CAUSED THE OUTBREAK OF DYSENTERY

To summarize the evidence that the milk of Dairy Z was responsible for the epidemic of dysentery:

(1) This milk was the only article of food or drink common to the greater majority of patients previous to their infection, and which may reasonably be considered as the source of their infection. All but eight cases gave a definite account of having used this milk.

(2) The epidemic was pretty definitely limited to the area of distribution of this milk, namely, the northern portion of Virginia City.

(3) It was of greatest prevalence among those who consumed the most milk, that is, children under the age of 10.

(4) Other probable causes of the epidemic can be excluded by a careful analysis of the data obtained from investigation of cases.

(5) The opportunity existed in this dairy for infected material to be transmitted by flies to the cleaned milk cans stored in the stable under the water-closet.

(6) This opportunity existed previous to the development in the great majority of patients among the customers of this route.

RECOMMENDATIONS

In making recommendations for the future prevention of dysentery in this city, it is considered that the prevention of an epidemic is not of more importance than the prevention of scattered cases. The same considerations hold true and are of equal application in the prevention of typhoid fever, which is the principal disease in Nevada transmitted by infected discharges.

MILK SUPPLY

The essentials in the production of a safe milk supply are:

- a. That it come from a healthy cow.
- b. That all dairy workers are healthy.
- c. That all receptacles used to contain milk be thoroughly cleansed and sterilized after each usage and stored to prevent contamination.
- d. That it be drawn in as cleanly a manner as possible and the introduction of dust and dirt be prevented.
- e. That it be immediately cooled and stored in the containers in which it is designed to reach the consumers.
- f. That the dairyman exercise unremitting vigilance to observe all these particulars.

These provisions should be enforced by means of proper ordinances and regular inspection, and their observance made necessary in order to sell milk in Virginia City.

WATER SUPPLY

Virginia City is the fortunate possessor of an unusually fine water supply. If the Water Company continues to exercise its present vigilance and care, infection of its supply need never occur. The odors and tastes disagreeable to many persons can be readily controlled by close observation of all places in which algal growth is likely to take place.

SEWAGE DISPOSAL

Such provision should be made that no human discharges are so disposed of that they are exposed to flies or other insects, etc. Open privies and antiquated flush closets offer those opportunities. All privies and closets should be made fly proof.

FLY DESTRUCTION

Dysentery and typhoid fever may be conveyed by flies, and they become a danger in a community where these diseases are present and sewage disposal is unsatisfactory. Flies do not originate these diseases; they merely act as carriers of germs, obtained from discharges to which they have had access. Discharges should be so disposed of that flies should not have access to them. They should be prevented from coming into contact with foodstuffs. Their number should be reduced by attacking their breeding places. Horse manure and garbage should be kept in closed receptacles where flies cannot reach them to lay their eggs.

THE CARE OF PATIENTS

All dysentery and typhoid fever patients should be isolated from other members of the family. If possible, the nurse should not be the family cook. The nurse's hands should be disinfected after each ministration to the patient. All discharges of feces and urine should be thoroughly disinfected before being disposed of.

In conclusion, I wish to express my hearty thanks for the cordial treatment and cooperation of Drs. Sullivan and Hodgins and Mr. James Leonard for the interest they have taken in the work and the invaluable assistance they have given.

Respectfully submitted,

MARK F. BOYD.

REPORT OF A FATAL CASE OF ANTHRAX

This is the single case mentioned under the head of "Morbidity Reports." The case was treated, and clinical history chronicled and courteously supplied to the State Board of Health, by Dr. J. C. Farrell of Fallon, Nevada.

Anthrax is relatively infrequent in man. Most physicians have probably never been called upon either to diagnose or treat a case. When infection does occur, it is a very serious matter. The disease is fairly common among cattle in various parts of this State. Hence, there is a greater possibility of human infection occurring in this region, and a greater necessity for physicians being on their guard to recognize it early when they meet it. These facts would seem to warrant reporting the following typical case:

The patient was a veterinarian in the state quarantine work in Churchill County. He was 40 years of age, gave an excellent history, and appeared to be in perfect general health. However, his heart was enlarged downward and to the left, and he had a pronounced mitral regurgitant murmur. On August 25, 1914, he presented himself with an infected wound at the base of the left thumb. He attributed it to a mosquito bite received two days before, and which he had scratched until it bled.

The lesion was about the size of a pea, dark in color, and on pressure exuded a dark serum. There was no pus. The surrounding area was somewhat hyperemic. The hand was much distorted by edema, most marked in the fingers and palm of the hand. There was no pain. The patient did not feel badly, but was prompted to consult a physician from the fact that sixteen days previously he had performed an autopsy on an animal dying of anthrax. On careful questioning he admitted that he was still wearing the overalls he had worn at the autopsy. Although he had carefully sterilized his hands and instruments, the overalls had been overlooked.

The temperature at this time was 101.2, the pulse 90, and respiration normal. A diagnosis of probable anthrax was made, and a continuous bath of hot creolin solution ordered for the hand.

The next morning, August 26, the hand was uniformly swollen to the

wrist, the entire dorsal surface of the hand was black and tense, secondary vesicles surrounded the original lesion and for some distance from it. There was a hyperemic line of demarcation at the wrist. The patient complained of intense pain at the base of the thumb on the palmar surface, apparently due to the extreme edema. He still had a good appetite, no nausea or vomiting, no headache or prostration, and was cheerful. Temperature 102.5, pulse 98, respiration 28.

The patient was anesthetized and an area as large as a fifty-cent piece excised, and the wound thoroughly cauterized with pure carbolic acid. Smears were sent to the laboratory and the diagnosis of anthrax confirmed.

At 4 p. m. the edema was more pronounced and the pain so intense that an opiate was necessary to relieve his suffering.

August 27—The area of edema and hyperemia as well as the vesicles have extended. The patient had a restless night with nausea, headache, loss of appetite, and much pain at the base of the thumb. The bowels were constantly constipated. When free from pain the patient was cheerful and not worried about his condition. Temperature 103.4, pulse 89, respiration 30. The p. m. temperature, 104.2, pulse 102, respiration 34. It was now necessary to keep the patient under morphine constantly, as the pain was unbearable. The edema and hyperemia had extended nearly to the elbow, and the entire area was covered with vesicles and blebs, with one large bleb in the axilla. These were opened frequently, but almost immediately re-formed. The hand to the wrist was greatly distorted and intensely black.

August 28, a. m.—The temperature 102, pulse 98, respiration 36. The patient was markedly toxic, restless, slightly delirious, and sweating profusely. The pulse was full and bounding. The line of demarcation had reached the elbow. Swelling was quite pronounced over the left side to below the nipple.

P. M.—The pain was so intense that opiates failed to give relief. Several superficial incisions were made on the back of the hand and enlarged hemostats. These wounds bled profusely. The blood was very dark and would not coagulate. Finally the hemorrhage had to be controlled with tight bandages. This depletion gave considerable relief, and the patient sank into a peaceful sleep from which he never fully aroused. The pulse gradually became weaker, and death occurred at 8 p. m.

Temperature per rectum two hours before death was 105.4.

A summary of the local symptoms present almost a book picture of a typical case, and are worth emphasizing:

1. The small red papule or pimple to which attention was first called by a stinging or smarting sensation, and not a sensation of pain or soreness as in ordinary infections; patient thought it a mosquito bite.
2. Early breaking down of this papule with vesicle formation. The vesicles on being opened discharged a bloody serum, but no pus.
3. The black necrotic center in an area of brawny induration and edema, the distortion being out of all proportion to the apparent severity of the infection.
4. The vesicles occurring in successive and larger crops and appearing at points distant from the lesion as well as surrounding it.
5. The absence of pus, a bloody serum exuding instead.

6. Constitutional symptoms appearing later as the individual walling off reaction on the part of the patient gave way and the infection became systematic.

As to the source and mode of infection in this case, several possibilities have to be considered:

First—The fingernails possibly were not properly cleansed and sterilized, so that infected blood from the autopsy dried underneath them with spore formation. Later, through scratching a mosquito bite or other irritated points, the skin was broken and infection carried in.

Second—Overalls soiled with infectious material at the time of the autopsy and later the infection being introduced into the abrasion.

Third—Spores on the skin or from either the above sources getting into an abrasion evident, or microscopic with formation of initial pimple which patient mistook for a mosquito bite.

Fourth—It was later learned that this patient had superintended the burning of the carcasses dead of anthrax but two or three days prior to his first symptoms, so infection may have occurred at that time which would correspond to the onset of the disease, instead of from infected material from the autopsy, two weeks before.

The prognosis of an anthrax infection is always grave, and depends on the tendency of the infection in each individual to remain localized. This tendency varies with the individual's natural resistance, and to a greater or less extent on the site and extent of infection. About 25 per cent become generalized sooner or later, and die. A very large majority of all systematic infections are fatal.

Treatment—If seen early, wide excision, probably best with actual cautery to close the avenues of absorption, would appear to be indicated. From reported cases symptoms rapidly subside following radical excision where the infection is definitely localized.

As to further local treatment, ipecac has appeared in reports from Italy, where the disease is prevalent, to give the best results.

Sclaro's serum has been used more extensively in Italy than elsewhere. There anthrax is as prevalent as typhoid is with us. The mortality in cases given the serum treatment is, approximately, 5 per cent as contrasted against approximately 25 per cent in all cases reported.

MARRIAGE LICENSES

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Lyon County.....	36
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Nye County.....	88
Ormsby County.....	38
Storey County.....	12
Washoe County.....	249
White Pine County.....	76
Total.....	778

